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Fig. 3. p. 172.

Fig. 1. p. 171.

Fig. 2. p. 172.

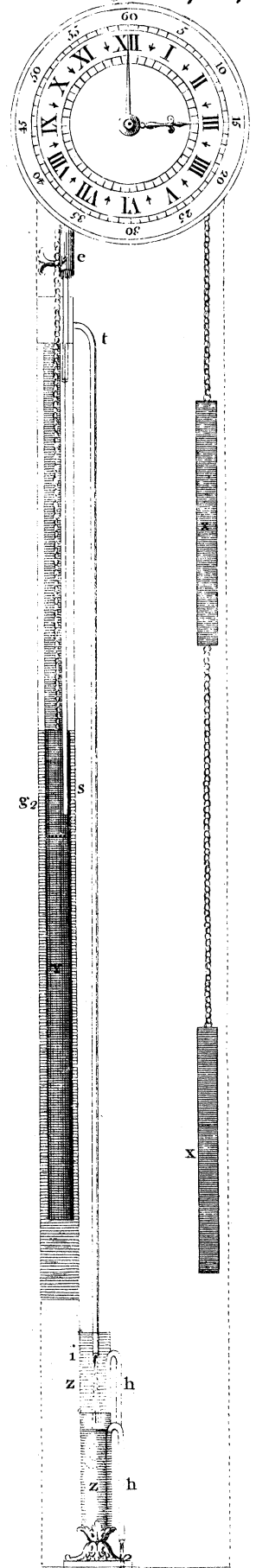
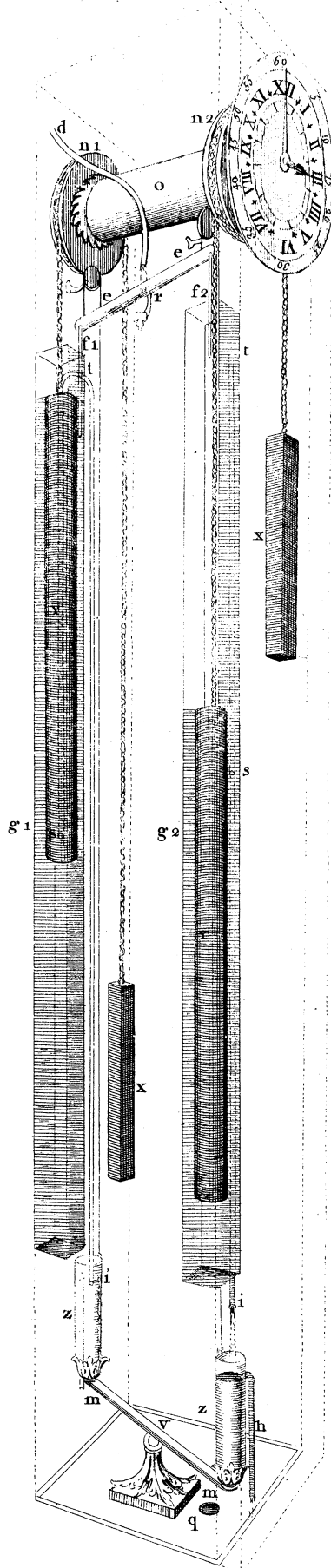
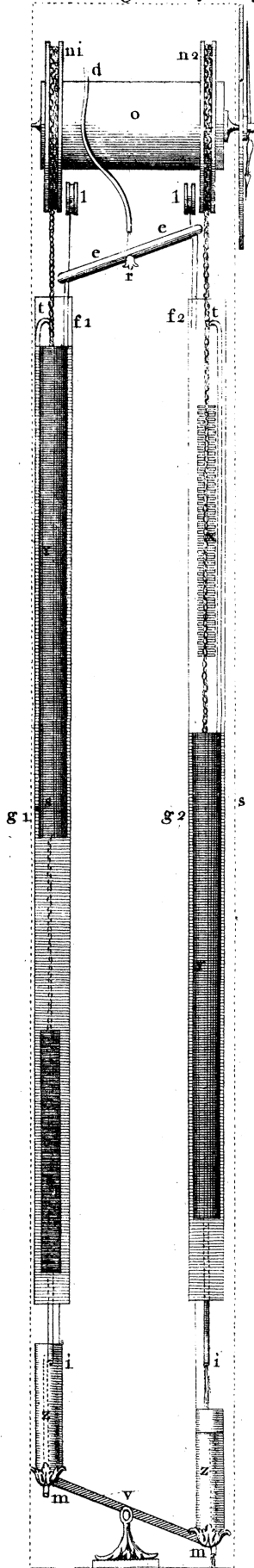


Fig. 1. p. 146.

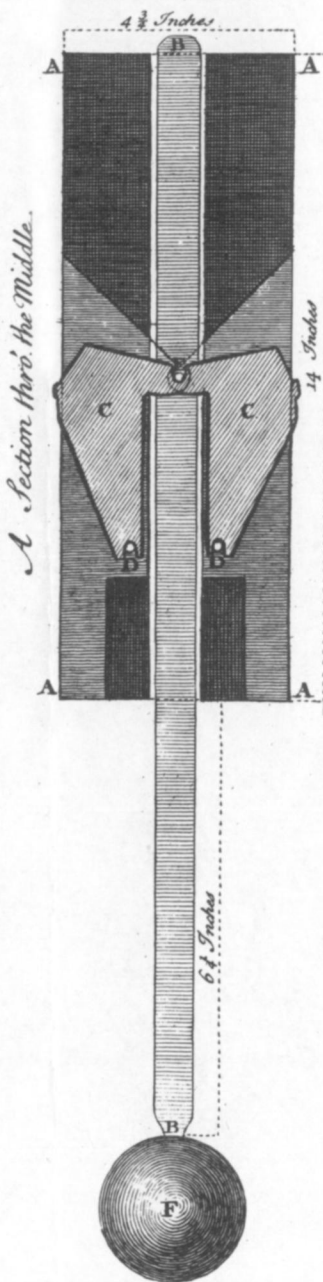


Fig. 2. p. 155.

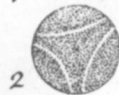
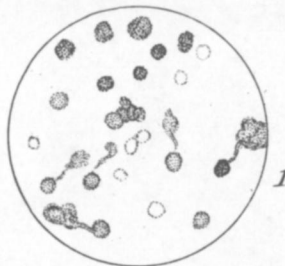


Fig. 4.
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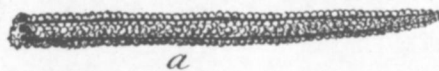


Fig. 3.
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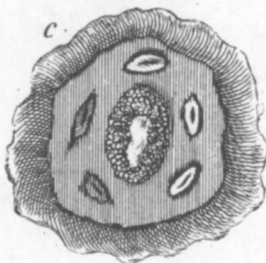
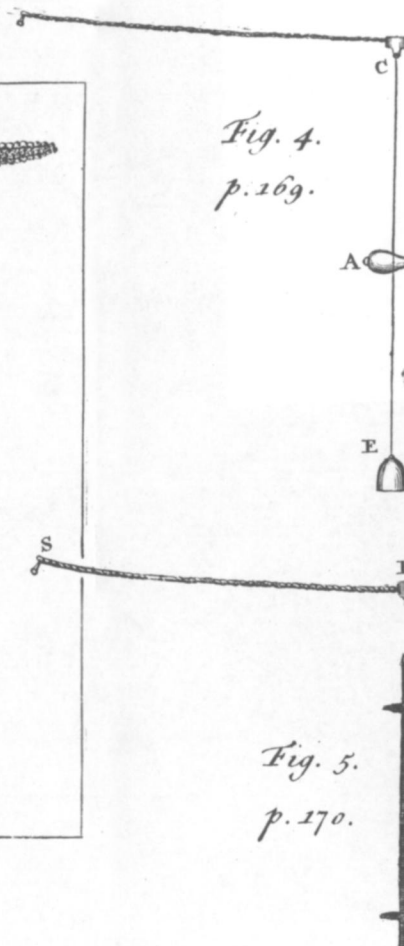


Fig. 5.
p. 170.



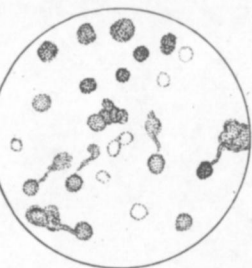


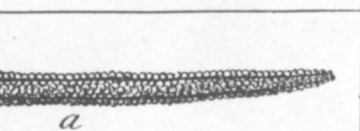
Fig. 2. p. 155.



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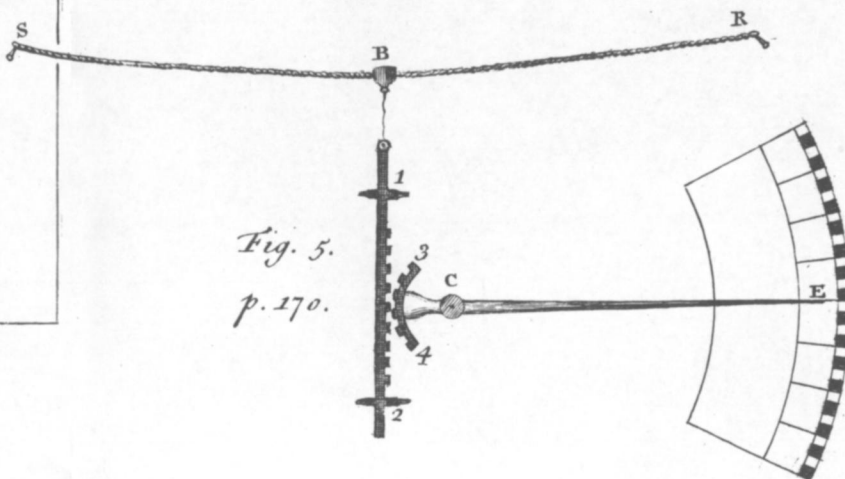
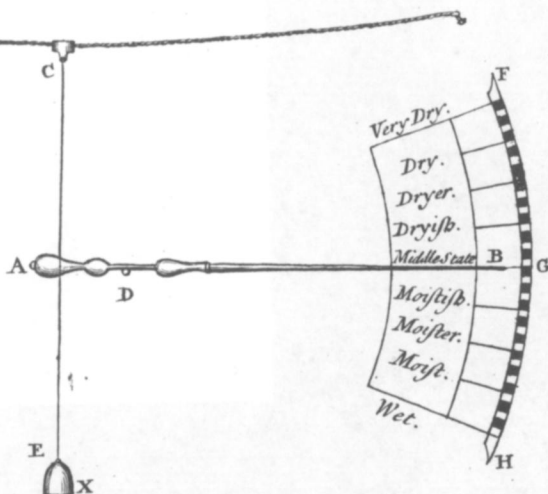
Fig. 3.



p. 167.



*Fig. 4.
p. 169.*



*Fig. 5.
p. 170.*

montes duo inter se concurrerunt, crepitu maximo affultantes, recedentesque; inter eos flamma fumoque in cælum exeunte, &c.

Dr. *Ehrhart* compares with this the several *Strata* found in digging in the Neighbourhood of *Memmingen* last Year.

Moro touches next upon the Hypothesis of some, that the Sea increases about one Foot in Height in about two Centuries; and of some others, that it decreases five Feet in one Century; as also, how the Saltness of the Sea may be deduced from his Hypothesis.

Dr. *Ehrhart* hopes that *Moro's* System may one time prevail against Prejudices, as well as those of *Vergilius, Galilæus, Harvey, &c.*

XII. *Further Observations and Experiments on the Passion-Flower, and its Farina, by Mr. Badcock, communicated by Mr. Henry Baker, F. R. S.*

Read April 24. 1746. **I**N my last Account *p.* 157. I concluded with observing, that what was in the Top of the Pistil, was so far from making me believe it *Papillæ*, or any other Passage for the Action of the *Farina*, that I described it to stand thus \emptyset ; and queried if there might not be Pores on its Top, as granting the Action of the *Farina* to have its Effect and Consequence, as described by Mr. *Needham, p.* 80. as there was no Possibility of its ever being in the Nature

Nature of the *Lilium flore reflexo*, described by him, by its *Papillæ* being of Use in the Manner and Figure described *Plate 5. Fig. 2.* of his Book. I have since taken all possible Methods to satisfy myself, and shall communicate the following Experiments, being the most material, without any Apology : as, upon a Conviction of an Oversight or Mistake, I am very ready to acknowledge my Error.

After the *Calix*, *Petala*, &c. are stripped off, the first Thing the Flower presents to View are a double Row of purple Threads : These Threads appear thus ; (*See TAB. II. Fig. 3. a.*) on which we may plainly perceive a sort of capillary Tubes (or whatever you will call them) standing as I before observed. Here we may be at a Loss for a Passage for the acting Matter of the *Farina* ; we must therefore look further. Upon cutting these Threads longitudinally, they appear in many Places as this before us, and are often pretty full. The Occasion of these Appearances, (*Fig. 3. b.*) I own I am not Botanist enough to solve, nor will the first Magnifier give me Satisfaction. At the Bottom of these, set round the Stem, is a single Row of small Threads, not exceeding half an Inch : These appear to have much broader Heads than the long purple Threads around them ; and being so well secured and fortified from Injury, I imagine to be of great Use and Consequence to the Flower ; yet they appear set in the same Manner, tho' the Tubes do not rise so high. I am inclined to believe these may be design'd in this Flower as *Papillæ* ; 1st, As they are so well fortify'd from all Injury from without ; 2dly, As the *Farina*, when the Flower blows, and closes at Night, is turn'd inwards ; which Time, I am likewise

wife inclined to believe, is the Time of Action *, at least in this Flower; for, after a hot Day, why may not the Evening Dews penetrate, and the *Farina*, having at that time a strong Suction, from the Drought, occasion it to act? But I have not made the Observation at which Time the *Farina* acts most, Morning or Evening; which I fancy would satisfy. 3dly, From this being the only Part of the Flower which appears with a Hollow or Indenting on its Top; by which the Action of the *Farina* (thus lying inwards) may fall down, and settle in this Hollow, as a Drop of Water would do: For I observe there are no Obstructions to such a Supposition, in the Structure of the Flower.

We will go now to the Top of the Flower, where are three *Stamina* placed on the *Uterus*: These are set in a Manner described before with Tubes; but, on making a longitudinal Section, I cannot find them carried on in any Shape.

We come next to the *Uterus*; here I cannot observe any Tubes at all; nor is there any Appearance to me remarkable, till we come to the Bottom of the *Stylus*; and then, by degrees, from a smaller to a greater it rises, till the Appearance becomes thus; (See TAB. II. Fig. 3. c.)

On

* The two following Experiments have given me Grounds for this; 1st, That the *Farina* I observe, is always damp in the Morning; 2dly, On examining it after a frosty Night, scarce one burst. I at this time made an Observation, which, I believe, has as yet escaped every one, That the intense Cold has such an Effect on the Globules as to throw many into the same Shape as *Aqua fortis* will,

On Examination, I find the five Appearances to answer the five *Stamina* on which the *Apices* are set; and from this Appearance, growing nearer and nearer to each other by degrees, they join at last all in one in the Stalk of the Flower.

XIII. *Part of a Letter from Mr. Wm. Arderon, F. R. S. to Mr. Henry Baker, F. R. S. concerning an Improvement of the Weather-Cord.*

S I R,

Read April 24. 1746. **T**HE Weather-Cord is an Hygrometer of a very ancient Invention, and, if properly constructed, may be made use of with very good Success, to shew the various Alterations of the Atmosphere, in respect to Moisture and Dryness; but, as commonly made, it never rises or falls sufficiently to point out such minute Changes as the Curious would be desirous to know. A Sense of this Defect set me upon endeavouring to find out some Method of removing it; and how far I have succeeded, will best appear upon casting your Eye upon the Drawings, TAB. II. *Fig. 4.* and *Fig. 5.*

In the first of these Hygrometers which I made, as in *Fig. 1.* I only fixed the End of the Index *AB* fast to the Silk *CE* at *A*, leaving it lying loose upon the Point *D*; and in this manner the other End of the Index would nearly describe the Arch *FGH*: But then I soon perceived, that the Centre of Motion,

Y 2

whereon